Accessing Block Group Data with the American Community Survey Summary File

Gretchen Gooding

June 2014

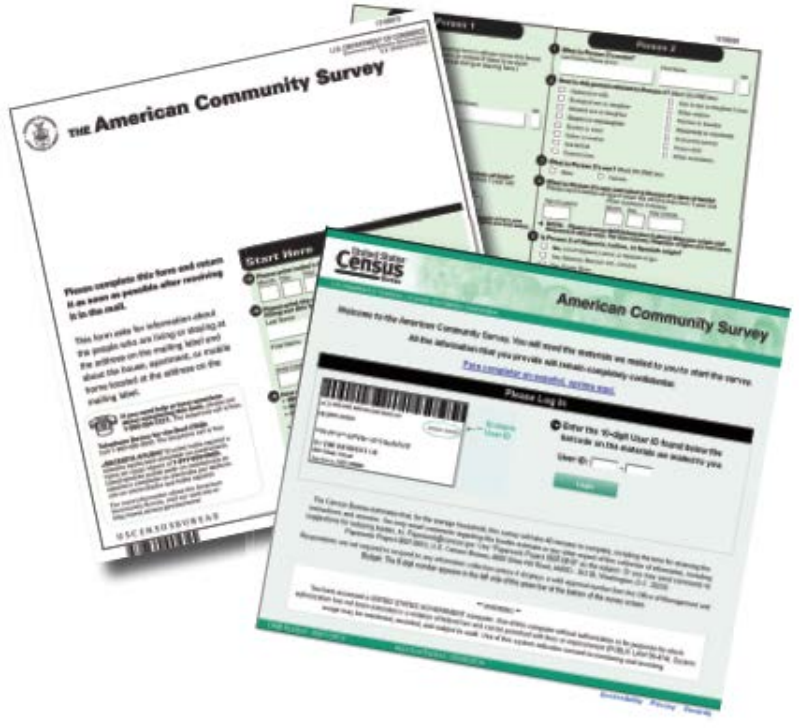
Outline

- **American Community Survey (ACS) basics**
- Tracts and block groups
- Overview of ACS Summary File (ACS SF)
- Ways to access the ACS SF
  - Summary File Retrieval Tool
  - DataFerrett
  - FTP site
  - Other
- Wrap up

What is the ACS?

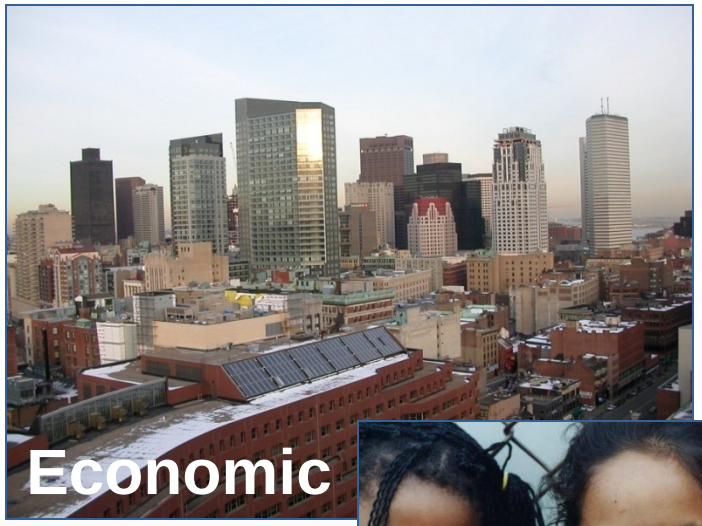
- A large national survey that uses continuous measurement methods to produce detailed population and housing estimates each year

- Designed to produce critical information that was previously collected in the decennial census



American Community Survey

Content



Selected Census Geographic Concepts

Legal/Administrative Areas

- Nation
- States
- Counties
- Incorporated Places
- Minor Civil Divisions
- Congressional Districts
- State Legislative Districts
- School Districts
- Zip Code Tabulation Areas (ZCTAs)

Statistical Areas

- Regions
- Divisions
- Census Designated Places
- Census County Divisions
- Public Use Microdata Areas (PUMA)
- Census Tracts
- Block Groups

Availability of ACS Data Products

Estimated Population of Geographic Area	Type of ACS Estimates Released
65,000 or more	1-year, 3-year, 5-year
20,000 to 64,999	3-year, 5-year
Less than 20,000	5-year

Data Products Release Schedule

	Year of Data Release						
Type of Estimate	2008	2009	2010	2011	2012	2013	2014
	Year(s) of Data Collection						
1-Year	2007	2008	2009	2010	2011	2012	2013
3-Year	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013
5-Year	NA	NA	2005-2009	2006-2010	2007-2011	2008-2012	2009-2013

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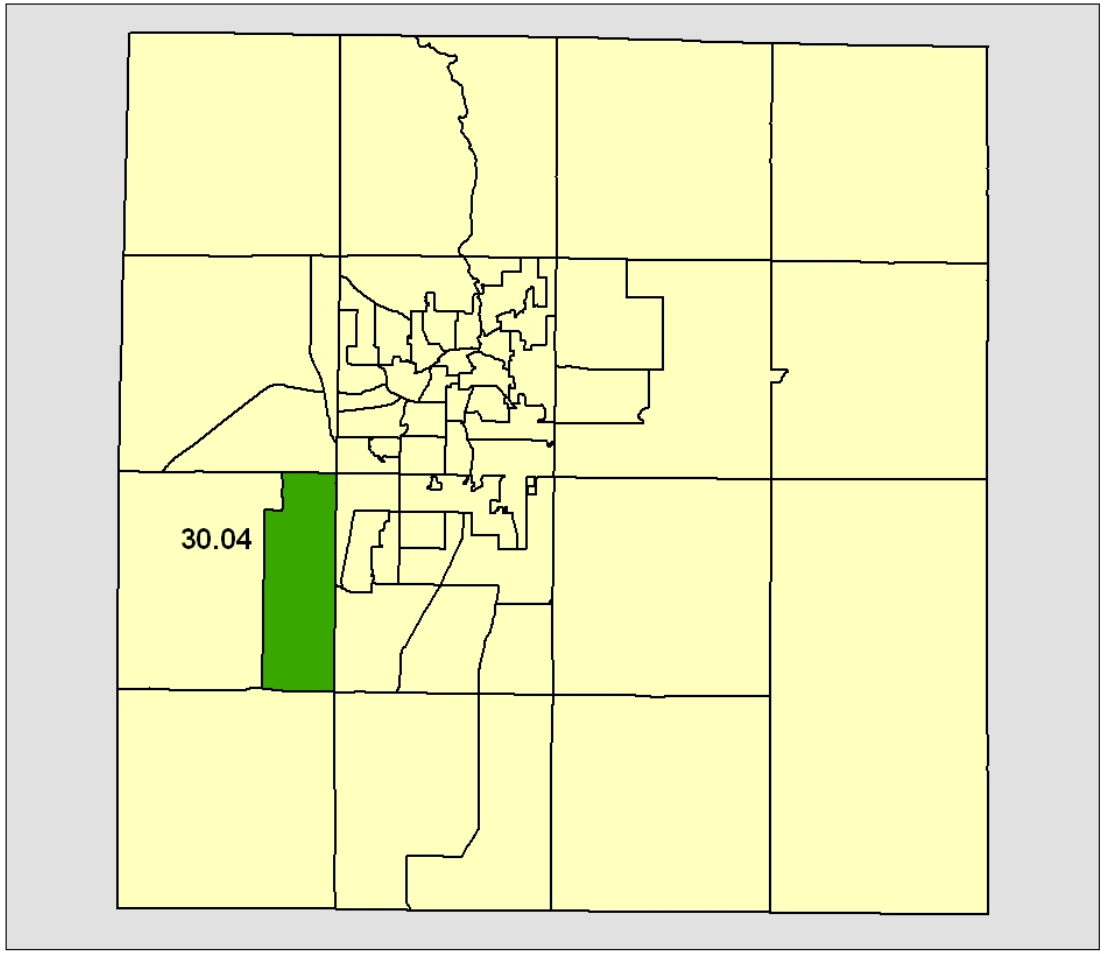
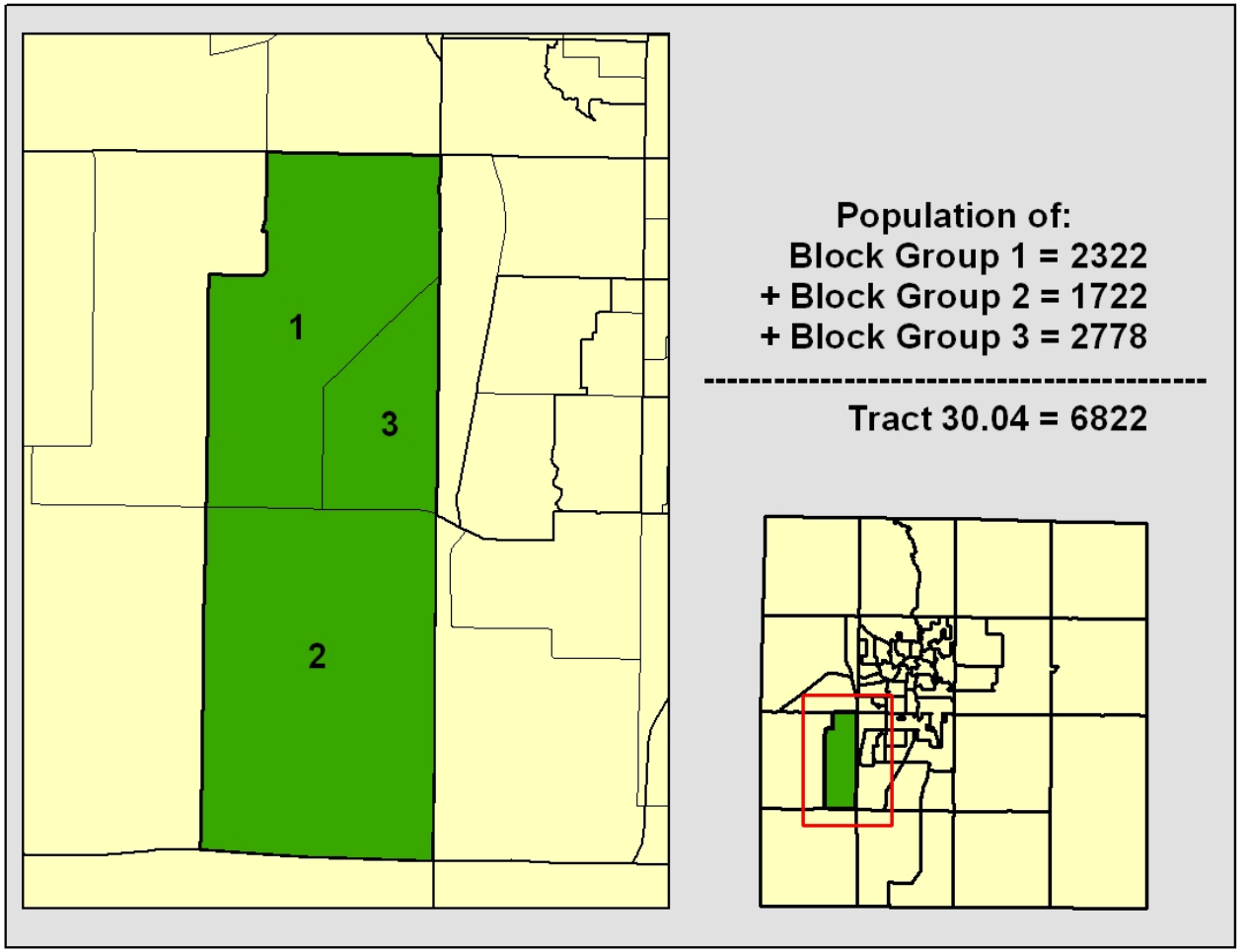
Tracts and Block Groups

- Census tracts are small, relatively permanent statistical subdivisions of a county
- Block groups are statistical subdivisions of census tracts and are the lowest level of geography available in the ACS
- Block group estimates are available only in the ACS Summary File, not American FactFinder
- Block groups and tracts are available only in the ACS 5-year estimates

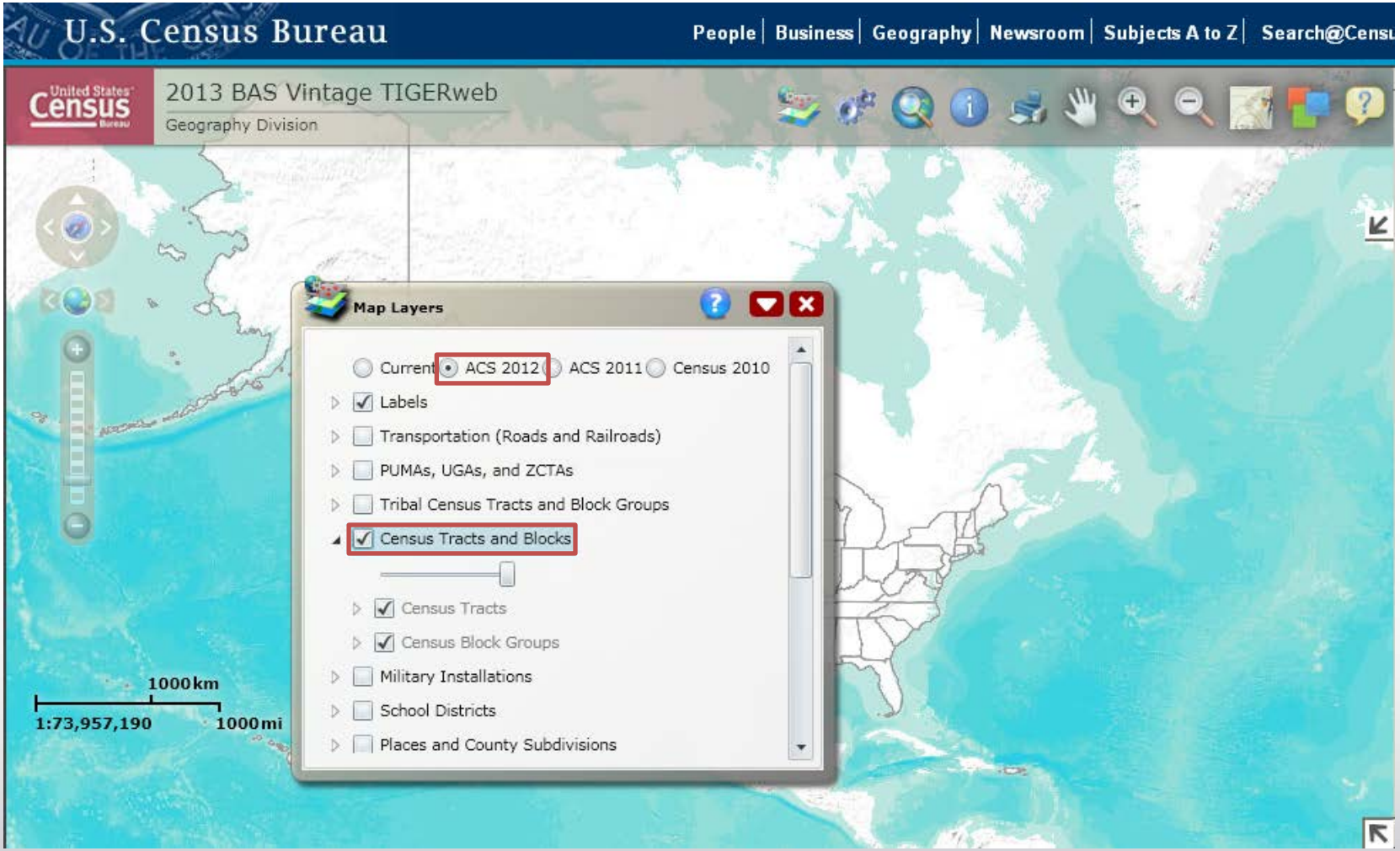
Kalamazoo County, MI - Census Tract 30.04



Kalamazoo County, MI - Census Tract 30.04, Block Groups 1, 2, & 3

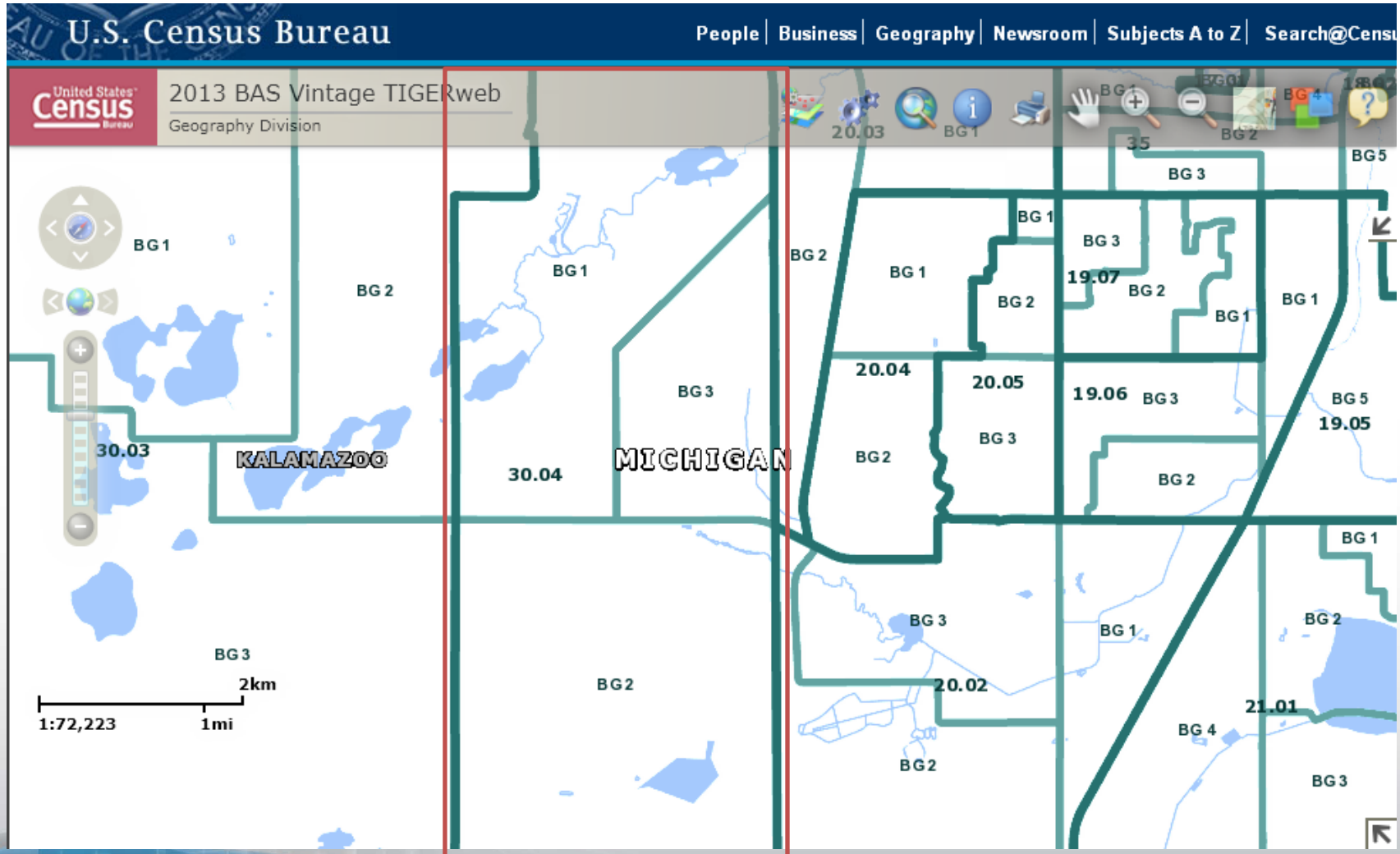


TIGERweb-Map Layers



tigerweb.geo.census.gov/tigerweb/

TIGERweb-Block Groups



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What is the ACS Summary File?

- Set of comma-delimited text files that contain all of the Detailed Tables
- Stored in a series of files on the FTP site
- Files contain only the data from the tables (no information such as table title, description of the rows, etc)
- Data have already been tabulated for specific geographic areas

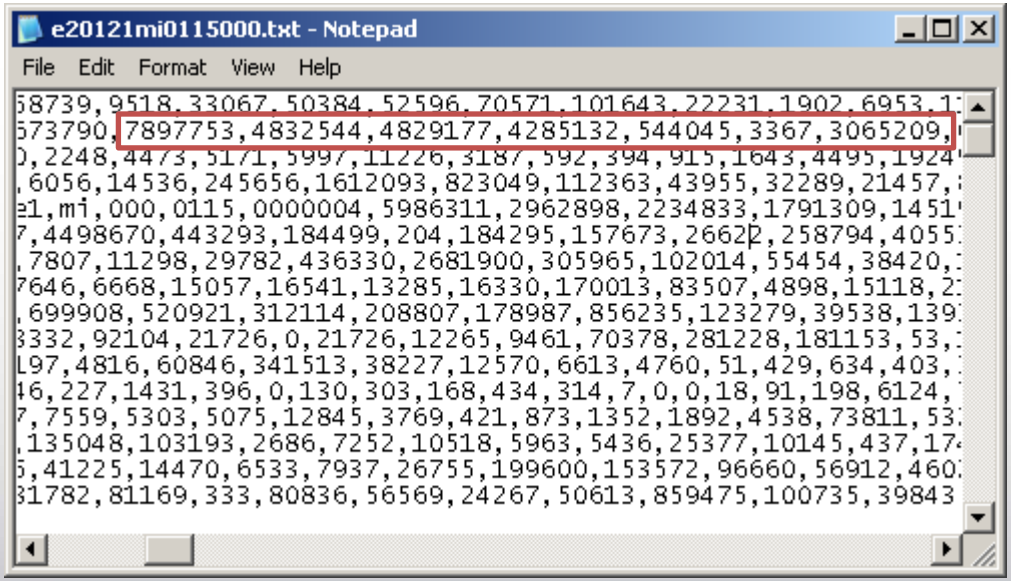
AFF vs. Summary File

B23025 | EMPLOYMENT STATUS FOR THE POPULATION 16 YEARS AND OVER
Universe: Population 16 years and over
2012 American Community Survey 1-Year Estimates

1 - 7 of 7

	Michigan	
	Estimate	Margin of Error
Total:	7,897,753	+/-4,903
In labor force:	4,832,544	+/-17,399
Civilian labor force:	4,829,177	+/-17,329
Employed	4,285,132	+/-17,643
Unemployed	544,045	+/-10,699
Armed Forces	3,367	+/-795
Not in labor force	3,065,209	+/-18,238

Source: U.S. Census Bureau, 2012 American Community Survey

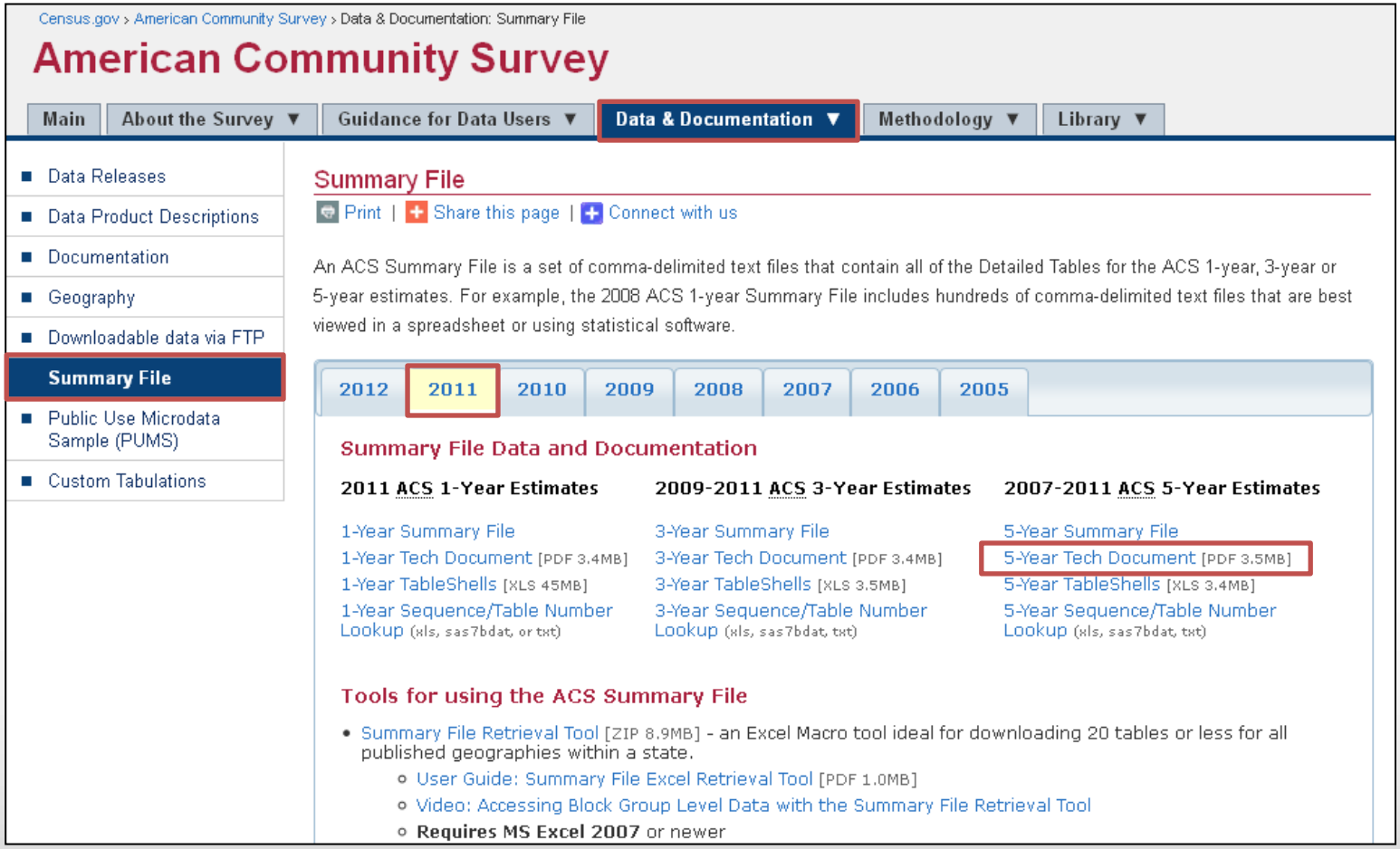


How to Use the ACS SF

1—Verify table is available at block group level
(not all tables are published for this geography)

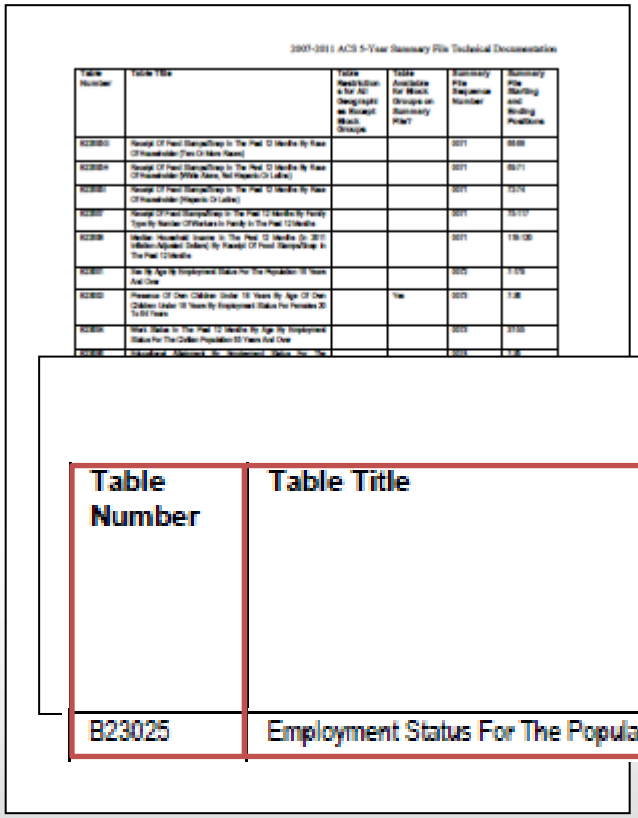
2—Use appropriate tool to access ACS SF
- Summary File Retrieval Tool
- DataFerrett
- FTP site

Summary File Page



census.gov/acs/www/data_documentation/summary_file/

Check Appendix E for Table



2007-2011 ACS 5-Year Summary File Technical Documentation

Table Number	Table Title	Table Restrictions for All Geographies Except Block Groups	Table Available for Block Groups on Summary File?	Summary File Sequence Number	Summary File Starting and Ending Positions
B23025	Employment Status For The Population 16 Years And Over		Yes	0075	7-13

www2.census.gov/acs2011_5yr/summaryfile/ACS_2007_2011_SF_Tech_ Doc.pdf

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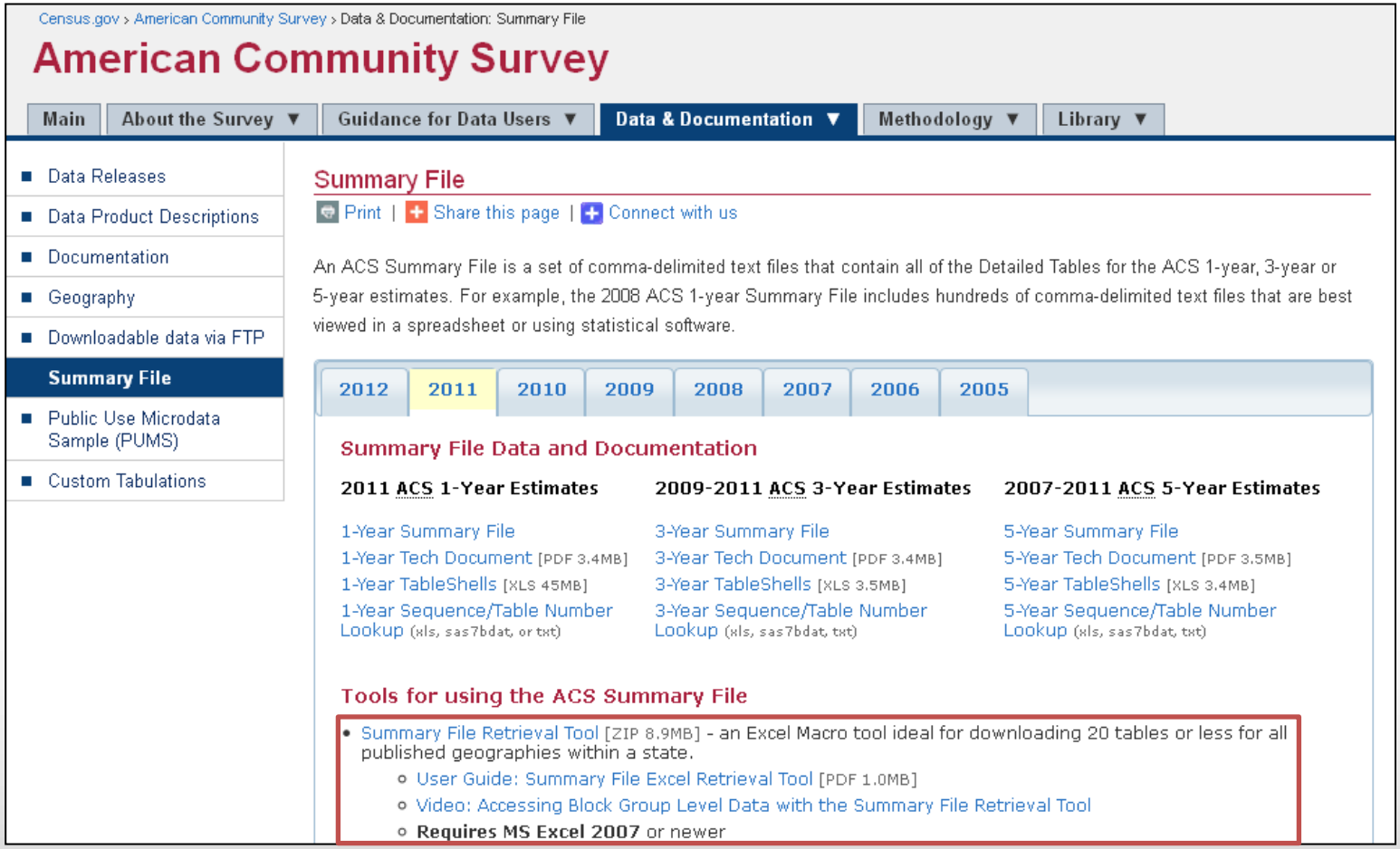
Summary File Retrieval Tool

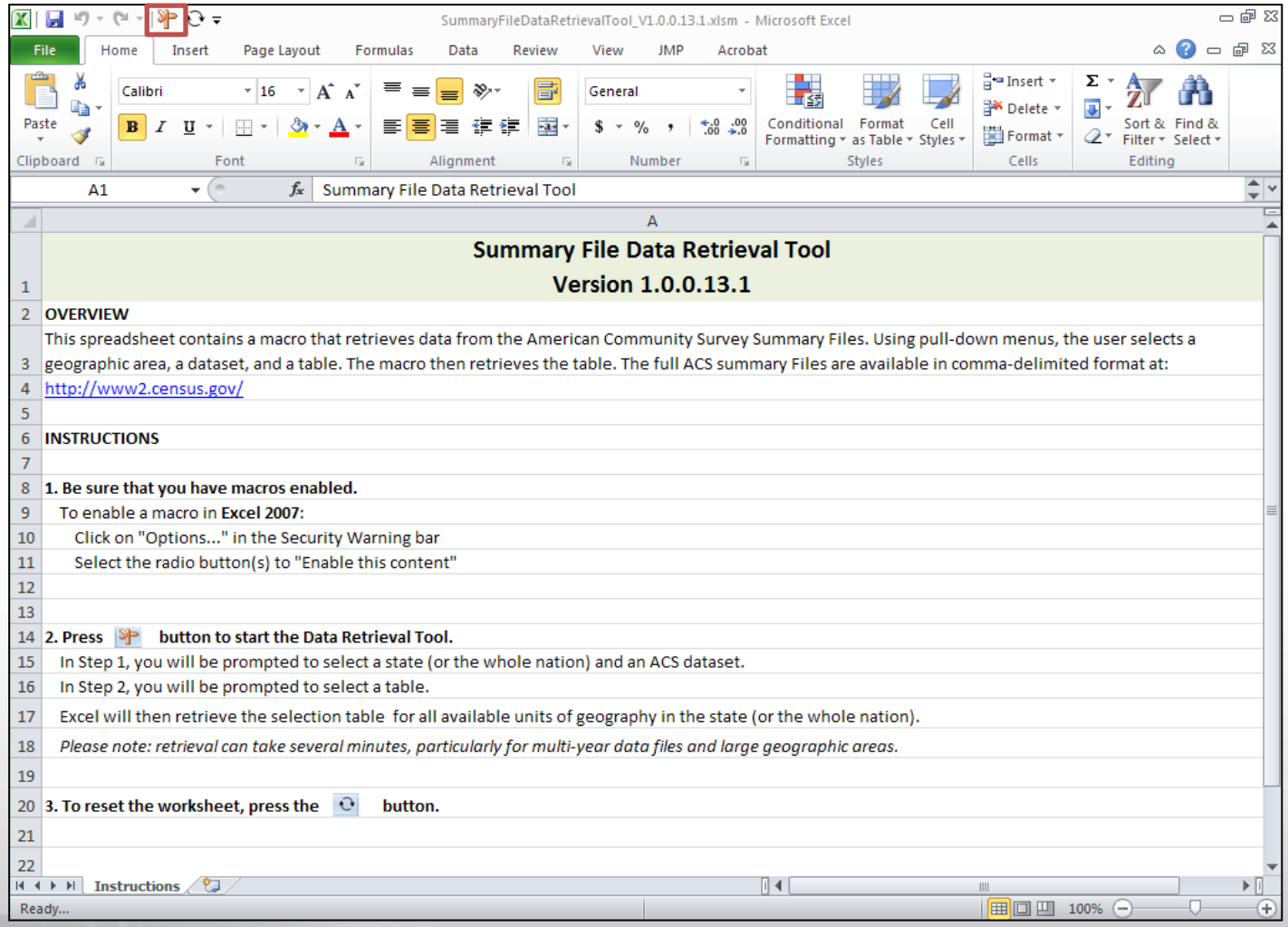
- Tool allows users to load tables from the ACS SF into an Excel spreadsheet
- Must have Excel 2007 or newer to run tool
- You can access all tracts and block groups per table per state

Summary File Page

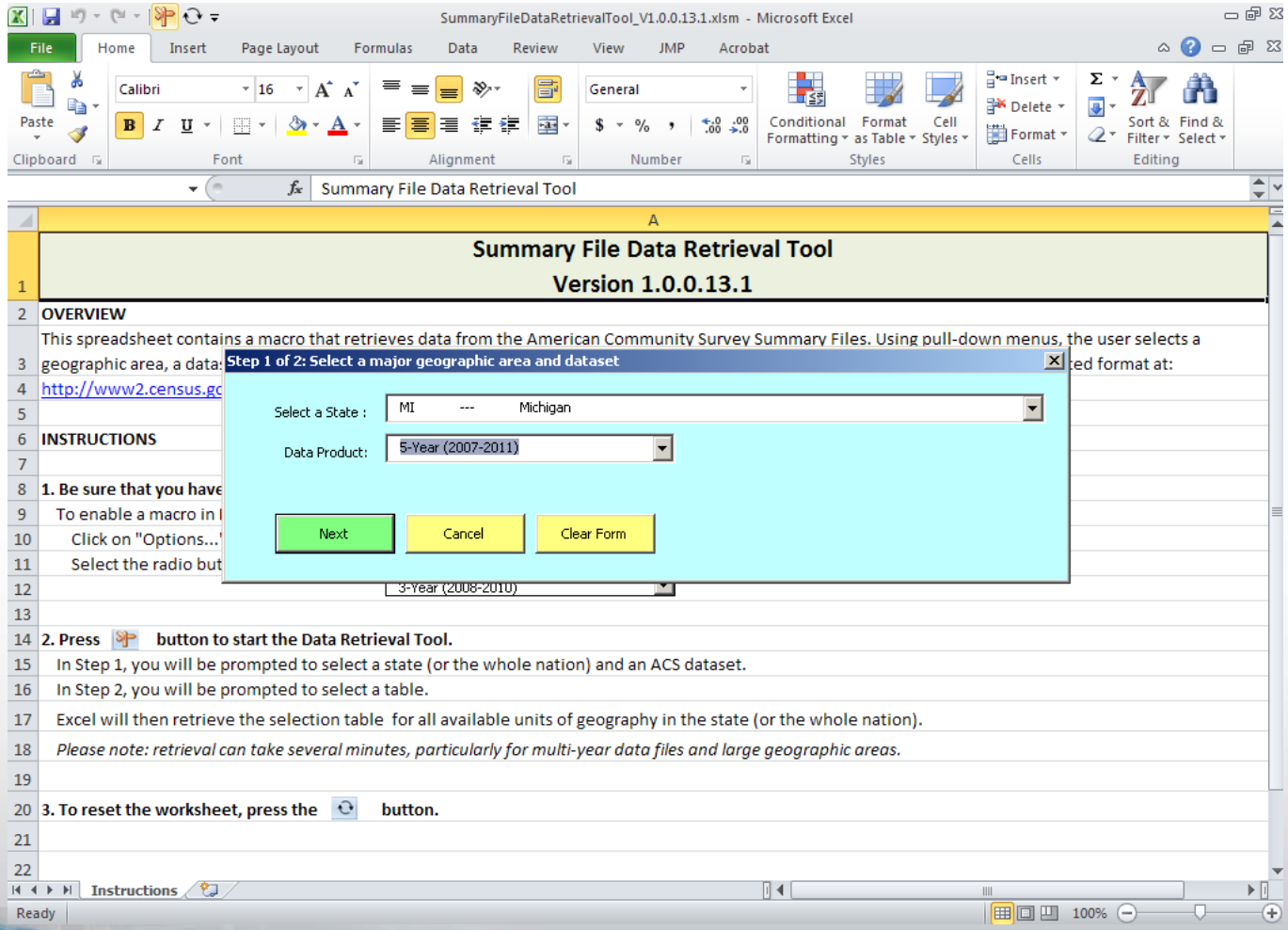


census.gov/acs/www/data_documentation/summary_file/

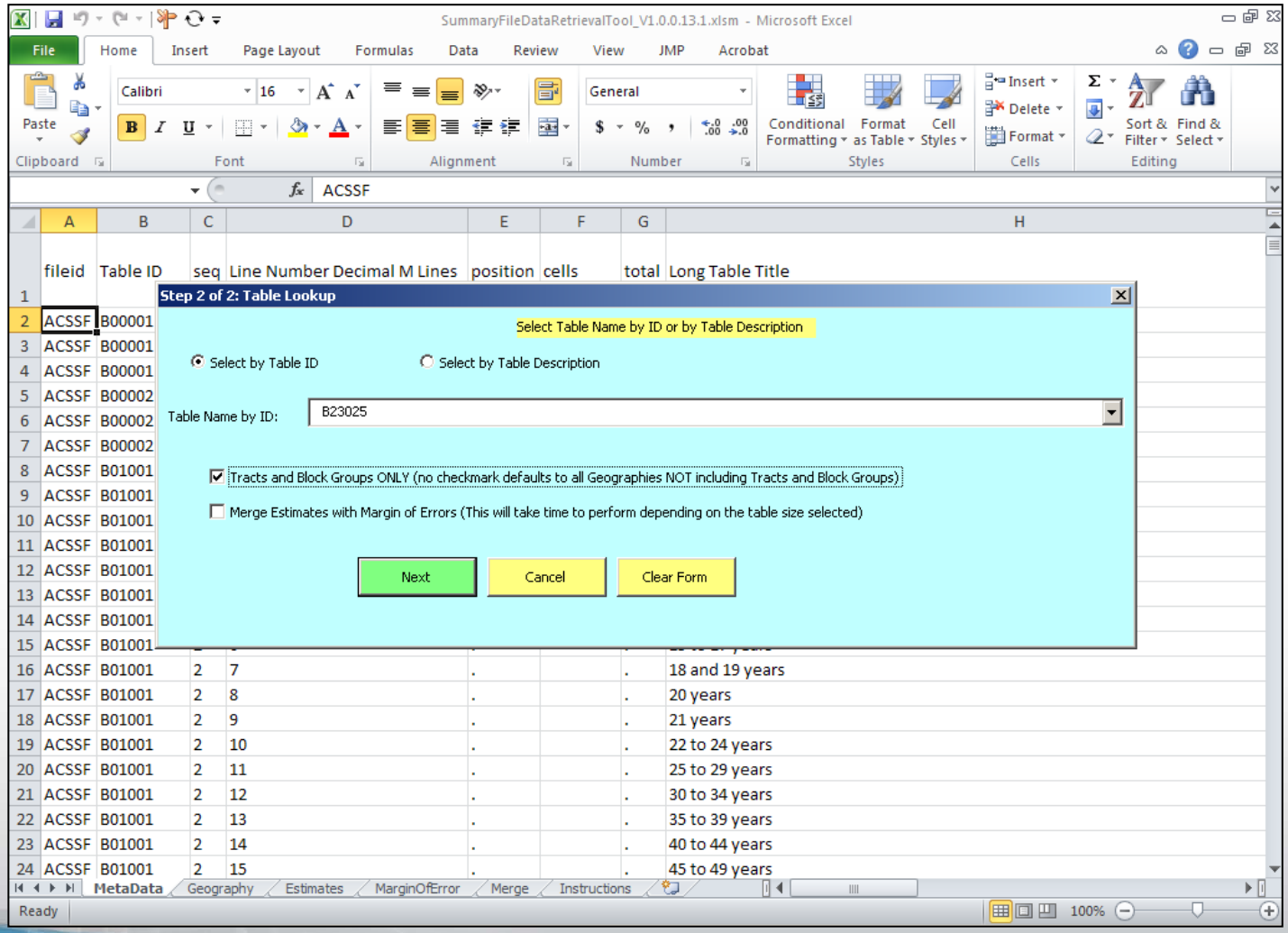
SF Retrieval Tool



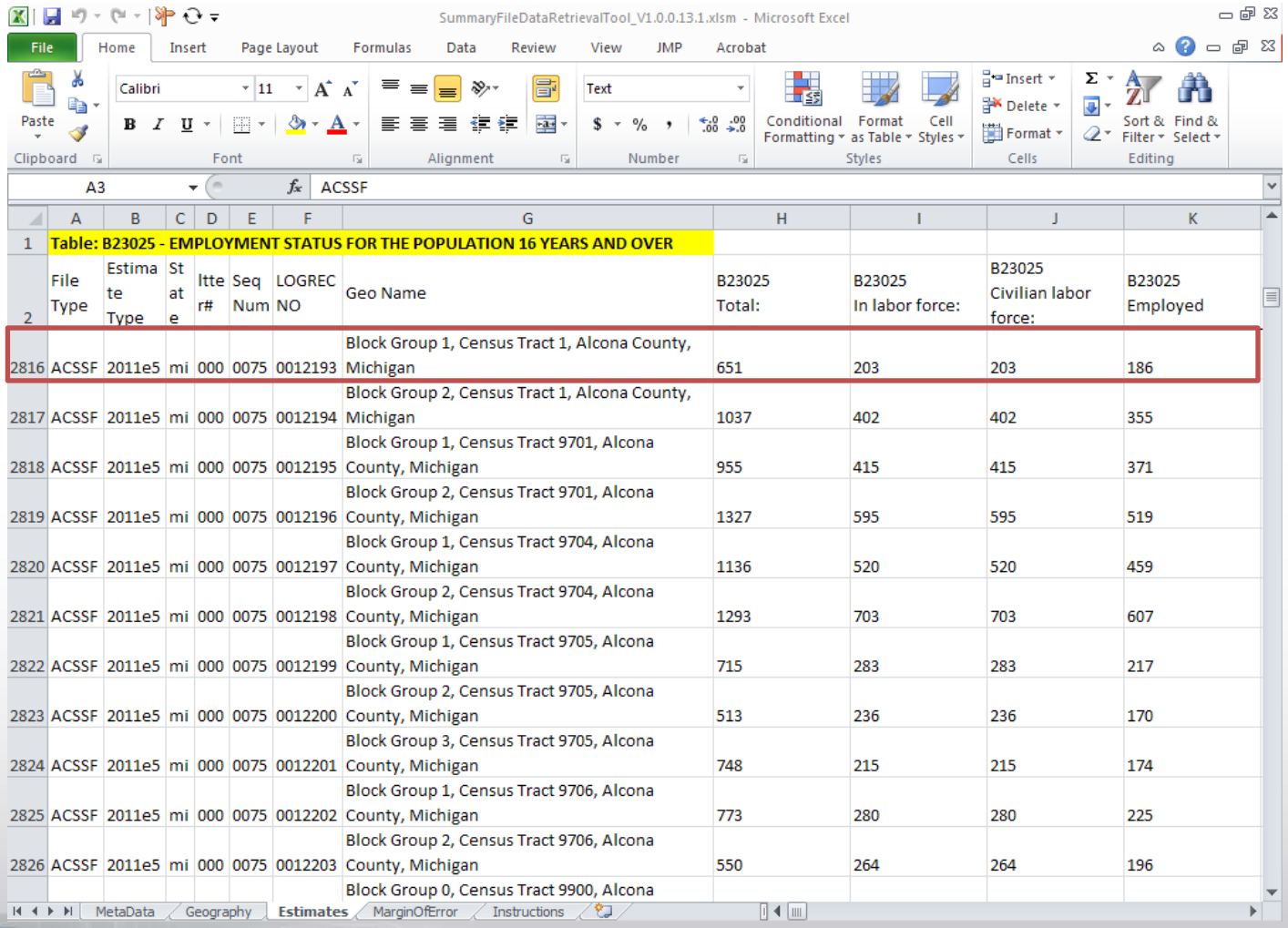
Step 1 of 2


SummaryFileDataRetrievalTool_V1.0.0.13.1.xlsm - Microsoft Excel
Summary File Data Retrieval Tool
Version 1.0.0.13.1
OVERVIEW
INSTRUCTIONS
Step 1 of 2: Select a major geographic area and dataset
Select a State :
MI --- Michigan
Data Product:
5-Year (2007-2011)
Next
Cancel
Clear Form
2. Press button to start the Data Retrieval Tool.
In Step 1, you will be prompted to select a state (or the whole nation) and an ACS dataset.
In Step 2, you will be prompted to select a table.
Excel will then retrieve the selection table for all available units of geography in the state (or the whole nation).
Please note: retrieval can take several minutes, particularly for multi-year data files and large geographic areas.
3. To reset the worksheet, press the button.
Instructions
Ready

Step 2 of 2


SummaryFileDataRetrievalTool_V1.0.0.13.1.xlsm - Microsoft Excel
Step 2 of 2: Table Lookup
Select Table Name by ID or by Table Description
Select by Table ID
Select by Table Description
Table Name by ID:
B23025
Tracts and Block Groups ONLY (no checkmark defaults to all Geographies NOT including Tracts and Block Groups)
Merge Estimates with Margin of Errors (This will take time to perform depending on the table size selected)
Next
Cancel
Clear Form
MetaData
Geography
Estimates
MarginOfError
Merge
Instructions
Ready

Results-Estimates



	A	B	C	D	E	F	G	H	I	J	K
1	Table: B23025 - EMPLOYMENT STATUS FOR THE POPULATION 16 YEARS AND OVER										
2	File Type	Estimate Type	State	Itter#	Seq Num	LOGRECNO	Geo Name	B23025 Total:	B23025 In labor force:	B23025 Civilian labor force:	B23025 Employed
2816	ACSSF	2011e5	mi	000	0075	0012193	Block Group 1, Census Tract 1, Alcona County, Michigan	651	203	203	186
2817	ACSSF	2011e5	mi	000	0075	0012194	Block Group 2, Census Tract 1, Alcona County, Michigan	1037	402	402	355
2818	ACSSF	2011e5	mi	000	0075	0012195	Block Group 1, Census Tract 9701, Alcona County, Michigan	955	415	415	371
2819	ACSSF	2011e5	mi	000	0075	0012196	Block Group 2, Census Tract 9701, Alcona County, Michigan	1327	595	595	519
2820	ACSSF	2011e5	mi	000	0075	0012197	Block Group 1, Census Tract 9704, Alcona County, Michigan	1136	520	520	459
2821	ACSSF	2011e5	mi	000	0075	0012198	Block Group 2, Census Tract 9704, Alcona County, Michigan	1293	703	703	607
2822	ACSSF	2011e5	mi	000	0075	0012199	Block Group 1, Census Tract 9705, Alcona County, Michigan	715	283	283	217
2823	ACSSF	2011e5	mi	000	0075	0012200	Block Group 2, Census Tract 9705, Alcona County, Michigan	513	236	236	170
2824	ACSSF	2011e5	mi	000	0075	0012201	Block Group 3, Census Tract 9705, Alcona County, Michigan	748	215	215	174
2825	ACSSF	2011e5	mi	000	0075	0012202	Block Group 1, Census Tract 9706, Alcona County, Michigan	773	280	280	225
2826	ACSSF	2011e5	mi	000	0075	0012203	Block Group 2, Census Tract 9706, Alcona County, Michigan	550	264	264	196
							Block Group 0, Census Tract 9900, Alcona				

Video on Using SF Retrieval Tool

youtube.com/user/uscensusbureau

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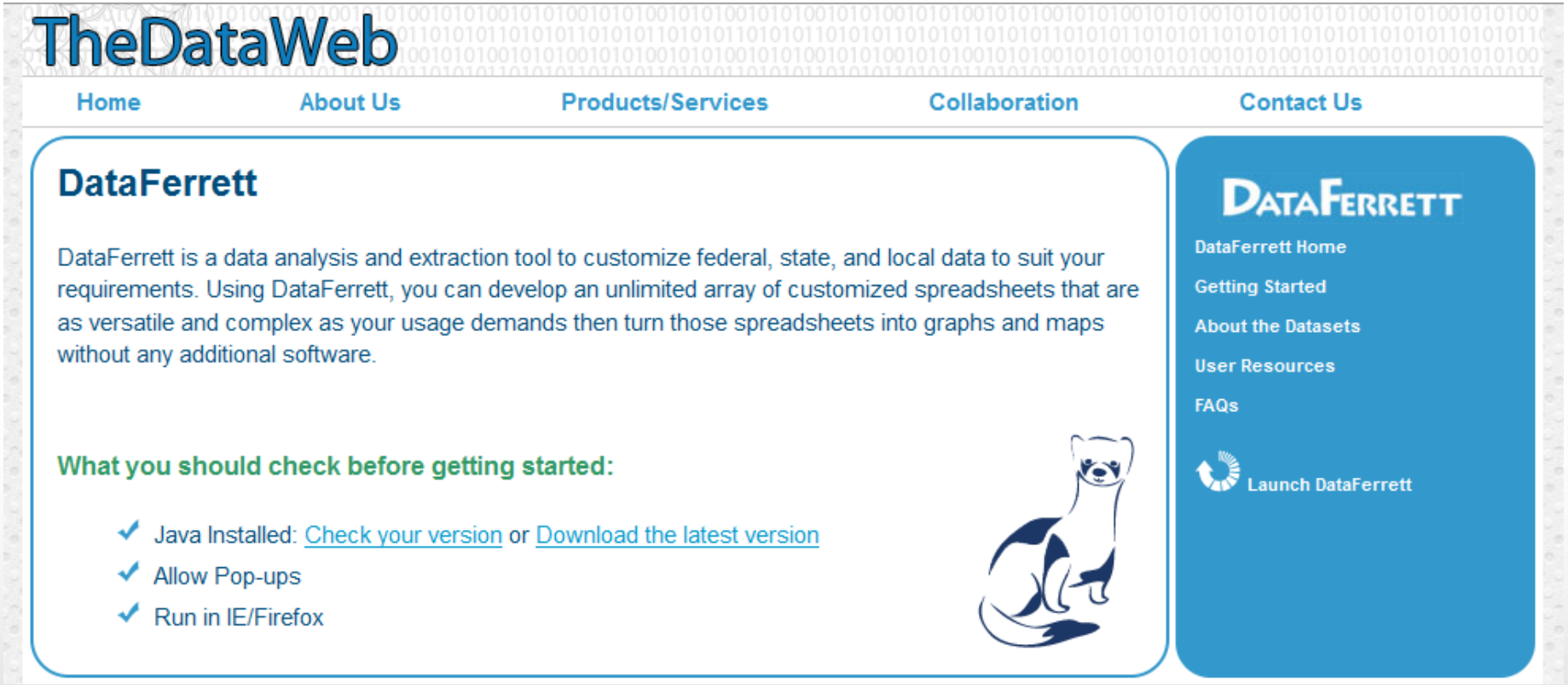
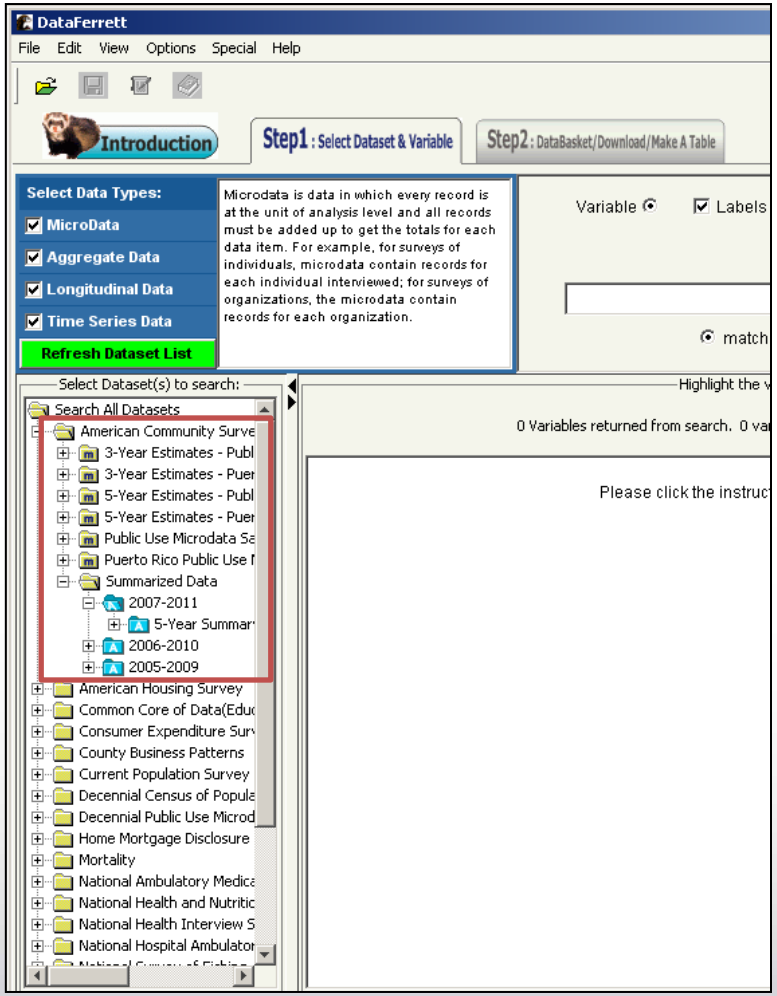
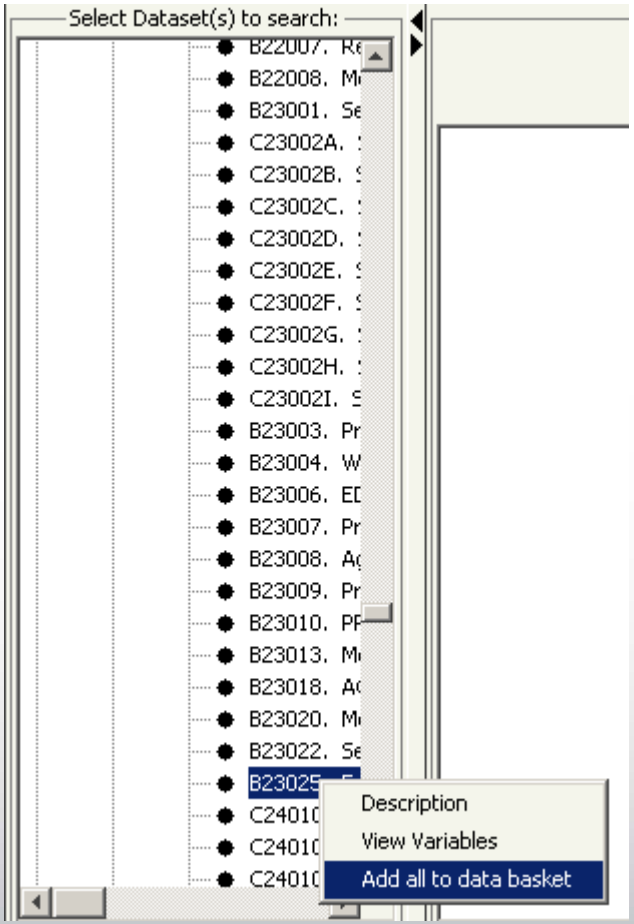
DataFerrett



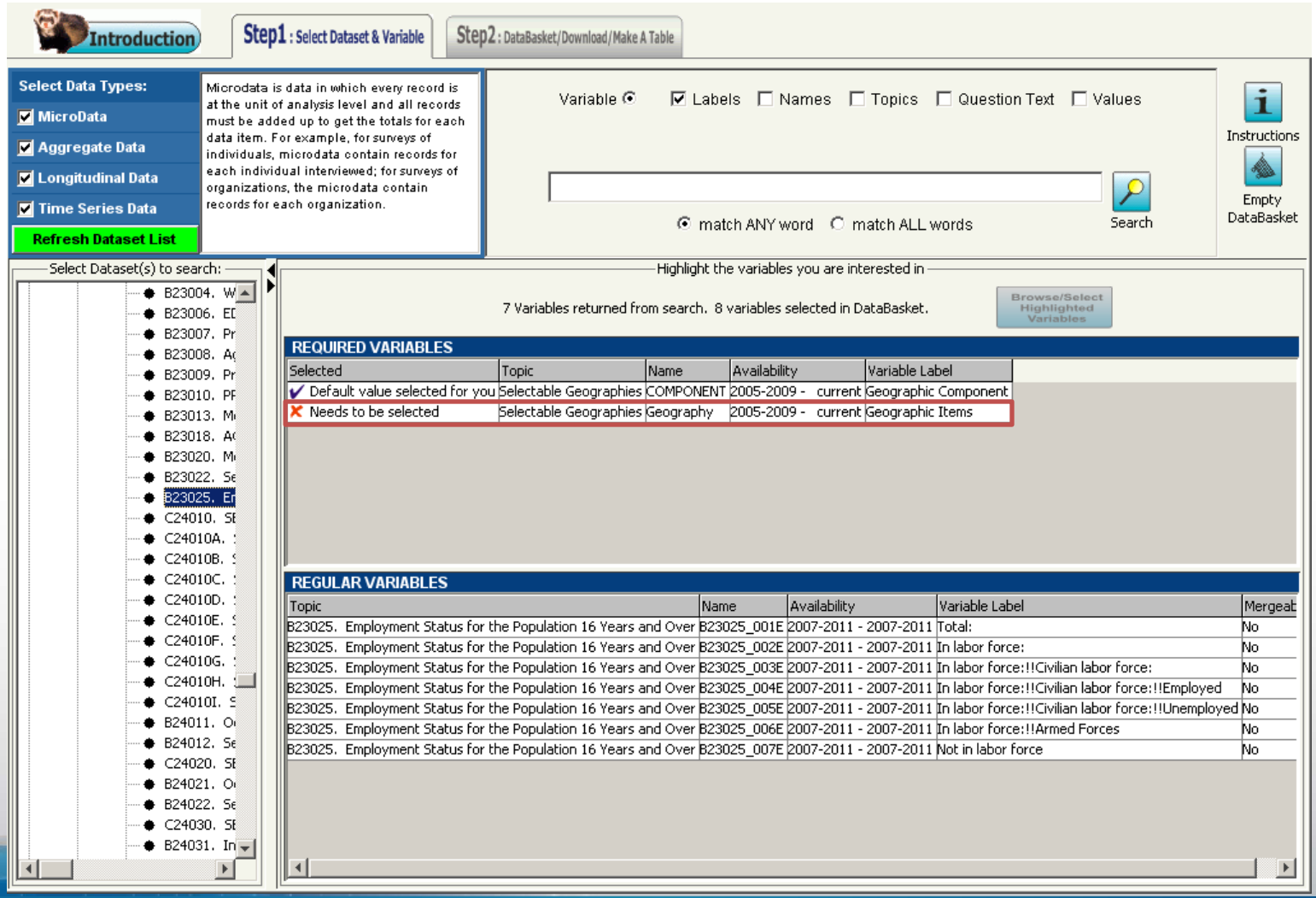
dataferrett.census.gov

Finding Summary Data

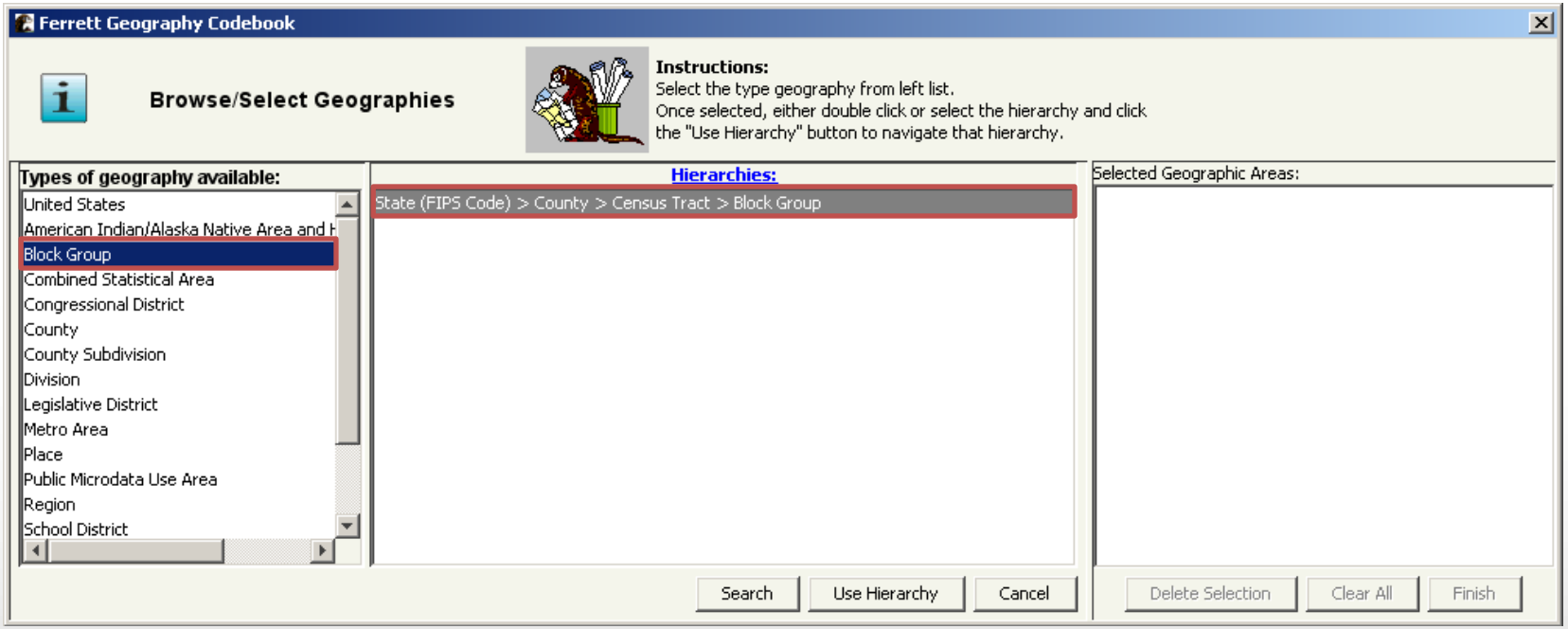




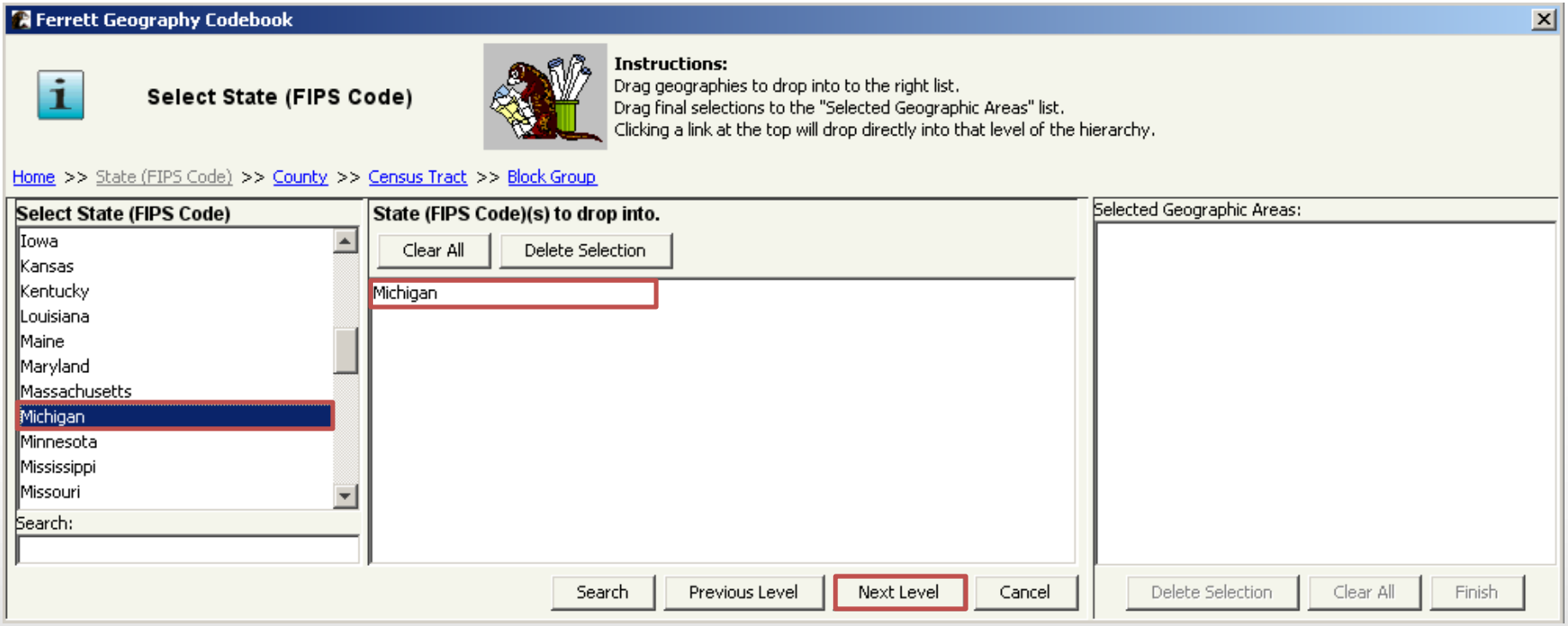
Select Geographies



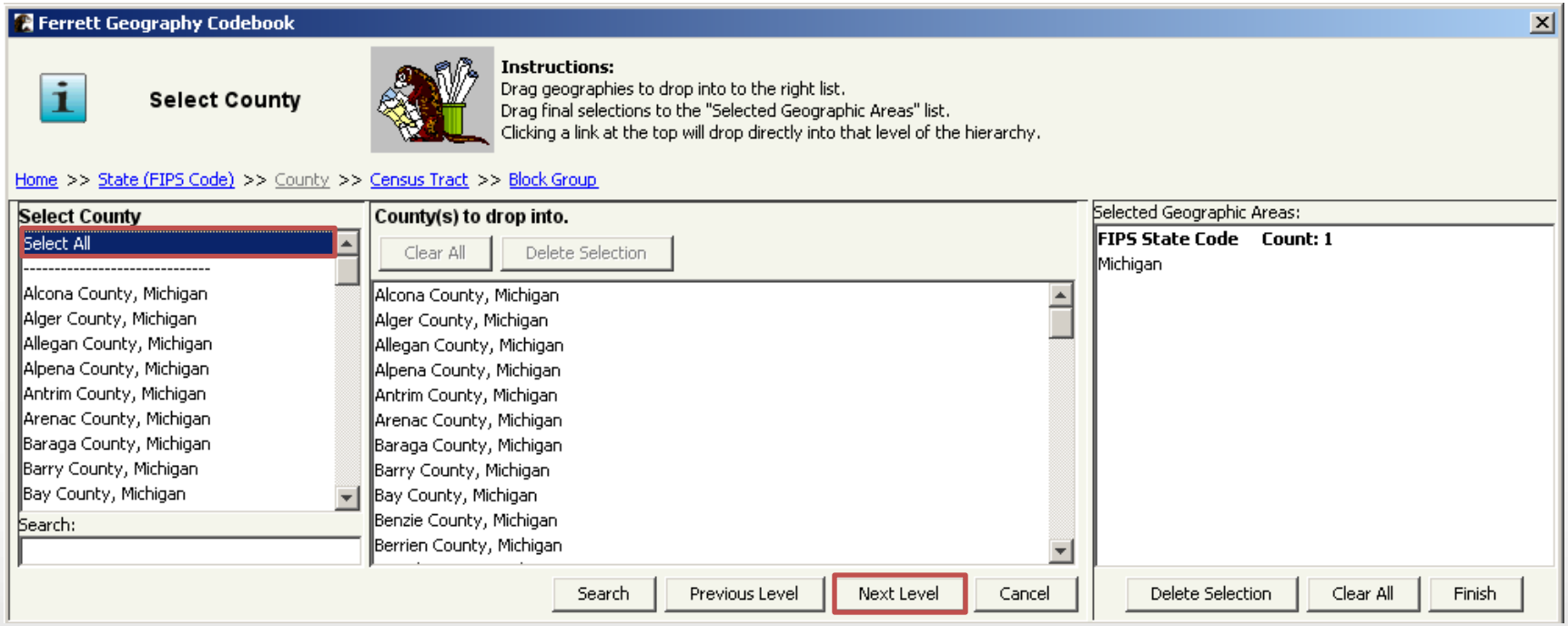
Select Geographies



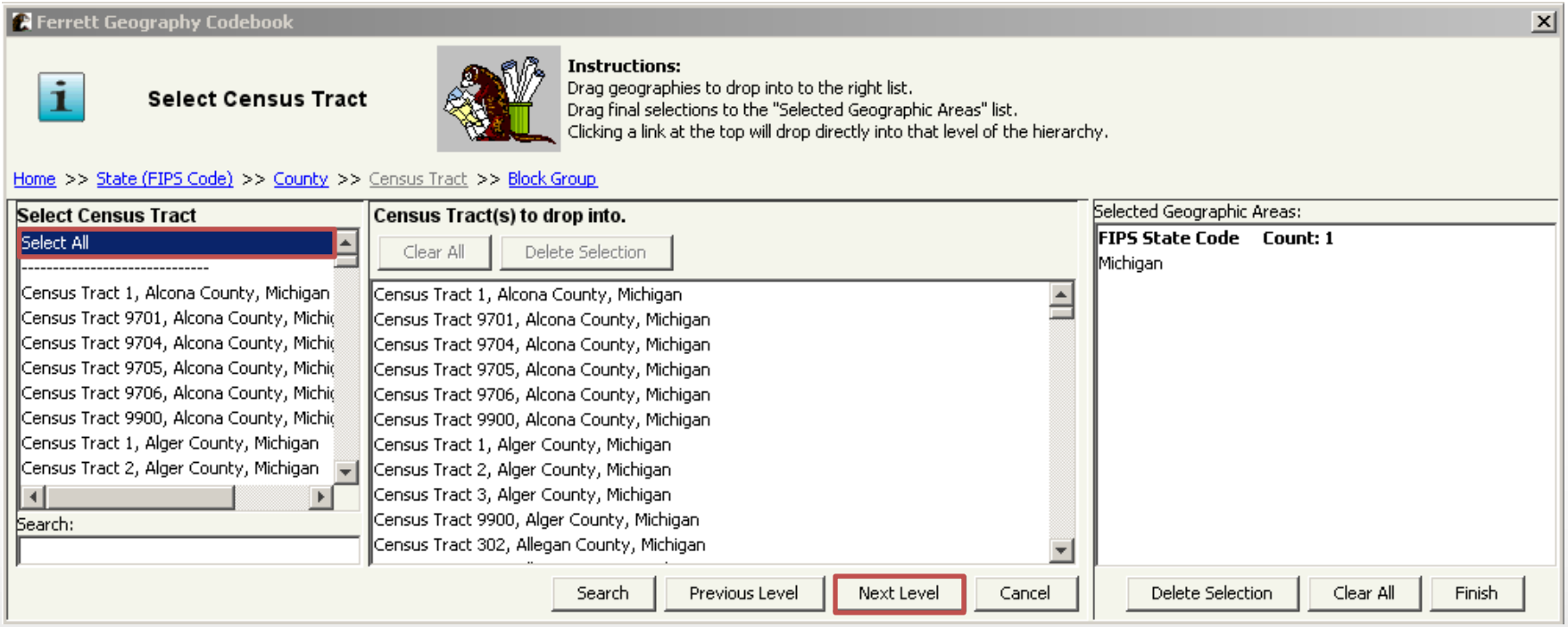
Next Level-State



Next Level-County

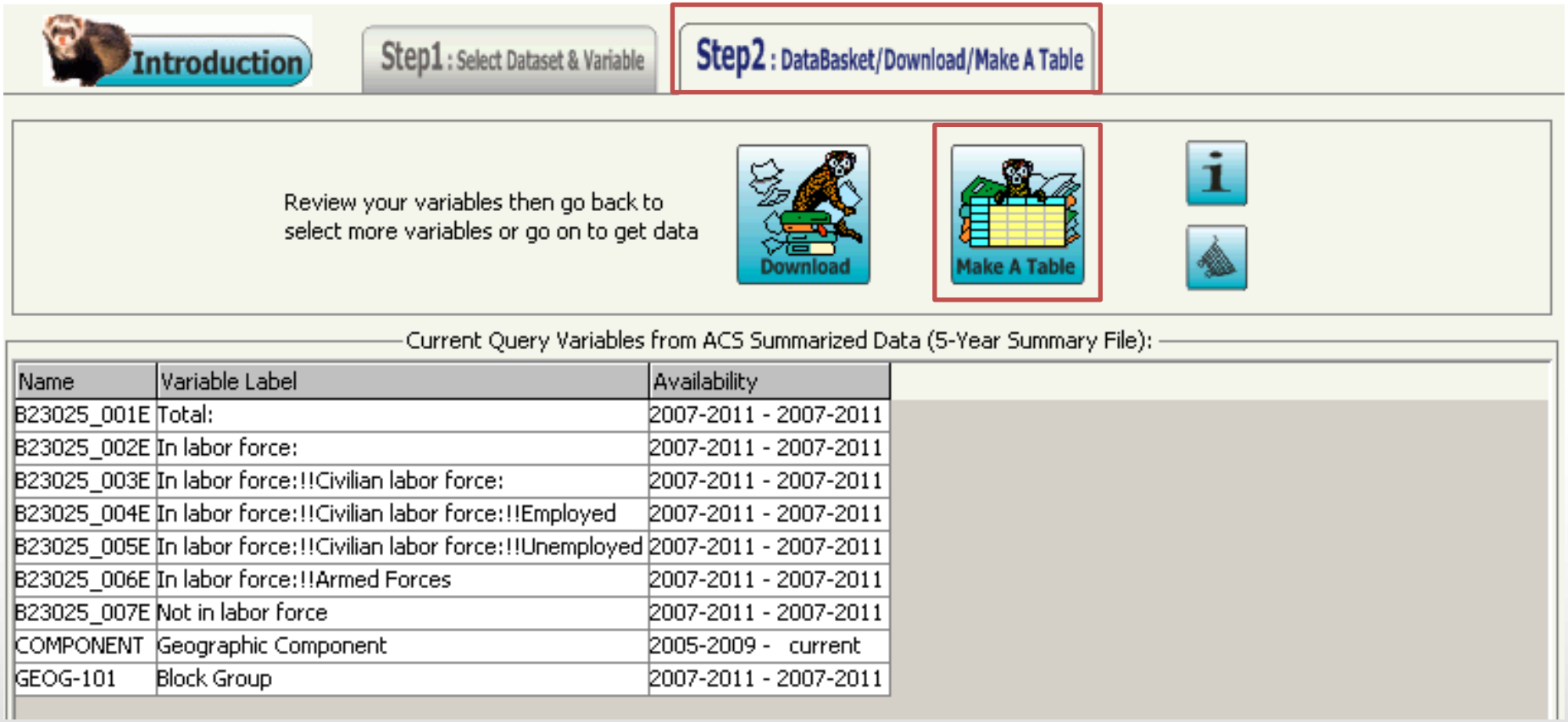


Next Level-Census Tract



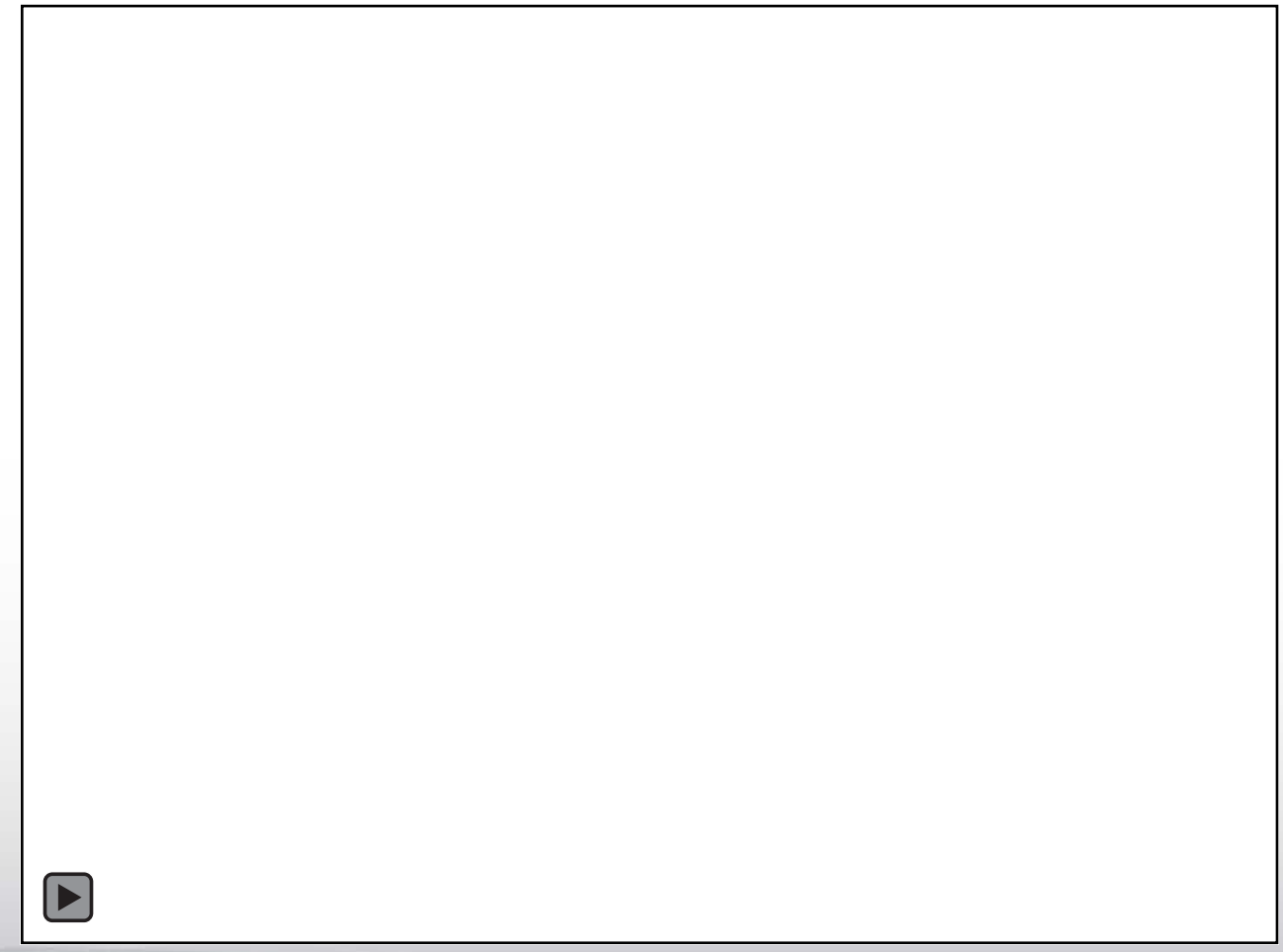
Next Level-Block Group

Step 2



Name	Variable Label	Availability
B23025_001E	Total:	2007-2011 - 2007-2011
B23025_002E	In labor force:	2007-2011 - 2007-2011
B23025_003E	In labor force:!!Civilian labor force:	2007-2011 - 2007-2011
B23025_004E	In labor force:!!Civilian labor force:!!Employed	2007-2011 - 2007-2011
B23025_005E	In labor force:!!Civilian labor force:!!Unemployed	2007-2011 - 2007-2011
B23025_006E	In labor force:!!Armed Forces	2007-2011 - 2007-2011
B23025_007E	Not in labor force	2007-2011 - 2007-2011
COMPONENT	Geographic Component	2005-2009 - current
GEOG-101	Block Group	2007-2011 - 2007-2011

Make Table



Results

Ferrett Tabulation

File Edit Format View Options Help

GO Get Data

Formula Bar

Pivot(s) can be dropped on pivot image above R1.

	C1	C2	C3	C4	C5
R9770	Block Group 3, Census Tract 66, Jackson County, Michigan	1,428	983	983	
R9771	Block Group 1, Census Tract 1, Alcona County, Michigan	651	203	203	
R9772	Block Group 2, Census Tract 1, Alcona County, Michigan	1,037	402	402	
R9773	Block Group 1, Census Tract 9706, Alcona County, Michigan	773	280	280	
R9774	Block Group 2, Census Tract 9706, Alcona County, Michigan	550	264	264	
R9775	Block Group 1, Census Tract 2, Alger County, Michigan	1,226	635	635	
R9776	Block Group 2, Census Tract 2, Alger County, Michigan	1,312	737	737	
R9777	Block Group 1, Census Tract 302, Allegan County, Michigan	1,669	1,187	1,187	
R9778	Block Group 2, Census Tract 302, Allegan County, Michigan	1,162	807	807	
R9779	Block Group 1, Census Tract 307.03, Allegan County, Michigan	1,130	722	722	
R9780	Block Group 2, Census Tract 307.03, Allegan County, Michigan	741	417	417	
R9781	Block Group 1, Census Tract 313, Allegan County, Michigan	1,165	805	805	
R9782	Block Group 2, Census Tract 313, Allegan County, Michigan	1,576	1,048	1,048	
R9783	Block Group 3, Census Tract 313, Allegan County, Michigan	1,055	724	724	
R9784	Block Group 1, Census Tract 322, Allegan County, Michigan	2,089	1,406	1,406	
R9785	Block Group 2, Census Tract 322, Allegan County, Michigan	934	540	540	
R9786	Block Group 3, Census Tract 322, Allegan County, Michigan	1,134	611	611	
R9787	Block Group 1, Census Tract 5, Alpena County, Michigan	416	242	242	
R9788	Block Group 2, Census Tract 5, Alpena County, Michigan	657	472	451	
R9789	Block Group 3, Census Tract 5, Alpena County, Michigan	581	432	432	
R9790	Block Group 0, Census Tract 9900, Alpena County, Michigan	0	0	0	
R9791	Block Group 1, Census Tract 9606, Antrim County, Michigan	712	348	348	
R9792	Block Group 2, Census Tract 9606, Antrim County, Michigan	434	328	328	
R9793	Block Group 3, Census Tract 9606, Antrim County, Michigan	641	304	304	
R9794	Block Group 4, Census Tract 9606, Antrim County, Michigan	841	466	466	
R9795	Block Group 0, Census Tract 9900, Arenac County, Michigan	0	0	0	
R9796	Block Group 1, Census Tract 1, Baraga County, Michigan	473	201	201	
R9797	Block Group 2, Census Tract 1, Baraga County, Michigan	1,058	577	577	
R9798	Block Group 3, Census Tract 1, Baraga County, Michigan	1,055	534	533	
R9799	Block Group 4, Census Tract 1, Baraga County, Michigan	697	440	440	
R9800	Block Group 0, Census Tract 9901, Baraga County, Michigan	0	0	0	

B23025_001E Total:
B23025_002E In labor force:
B23025_003E In labor force:!!Civilian labor force:
B23025_004E In labor force:!!Civilian labor force:!!Emplo
B23025_005E In labor force:!!Civilian labor force:!!Unem
B23025_006E In labor force:!!Armed Forces
B23025_007E Not in labor force
COMPONENT Geographic Component
GEOG-101 Block Group

Universe: (COMPONENT in (00)) AN
Weight used: Unweighted
DataSet(s) selected: 2007-2011

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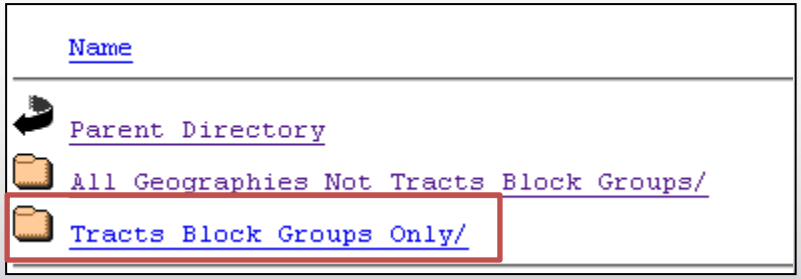
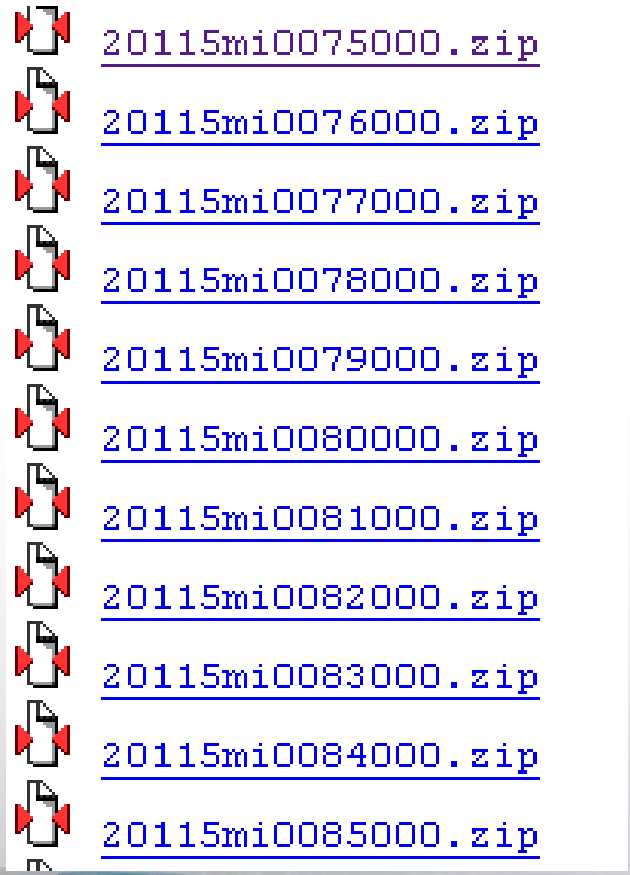
Summary File Organization

Name	Last modified	Size	Description
Parent Directory		-	
2007-2011 ACSSF All In 2 Giant Files(Experienced-Users-Only)/	20-Dec-2012 13:50	-	
2007-2011 ACSSF By State All Tables/	27-Nov-2012 13:53	-	
2007-2011 ACSSF By State By Sequence Table Subset/	27-Nov-2012 13:53	-	
ACS2011 5-Year TableShells.xls	14-Nov-2012 09:37	2.2M	
ACS 2007 2011 SF Tech Doc.pdf	30-Nov-2012 11:52	4.7M	
SequenceNumberTableNumberLookup.sas7bdat	17-Oct-2012 09:26	8.0M	
Sequence Number and Table Number Lookup.txt	17-Oct-2012 09:27	1.7M	
Sequence Number and Table Number Lookup.xls	17-Oct-2012 09:21	2.1M	
UserTools/	05-Dec-2012 13:32	-	



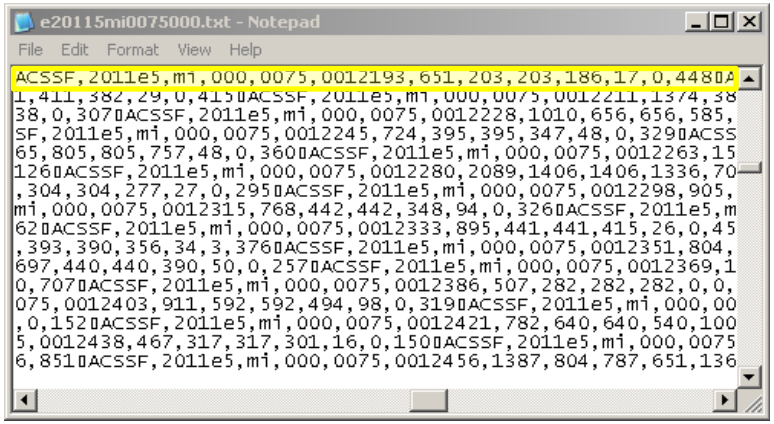
www2.census.gov/acs2011_5yr/summaryfile/

File Naming

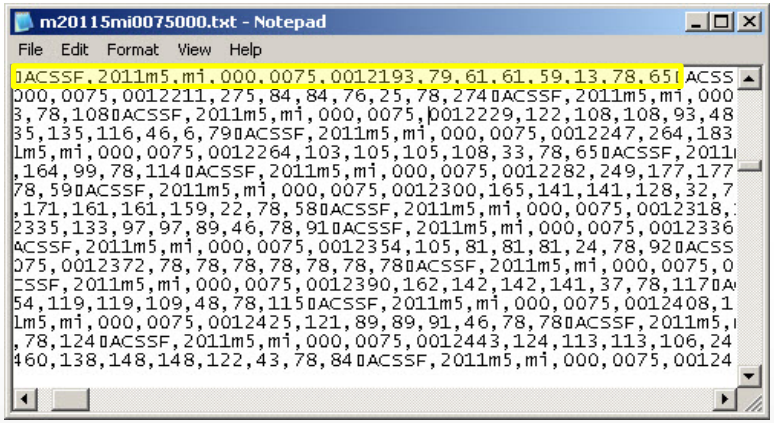


2011 5 mi 0075 000.zip

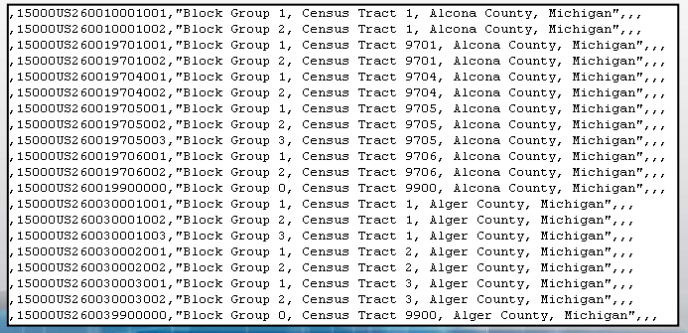
- 2011=reference year
- 5=period covered
- mi=state level
- 0075=sequence number
- 000=iteration ID



Estimate file
e20115mi0075000.txt

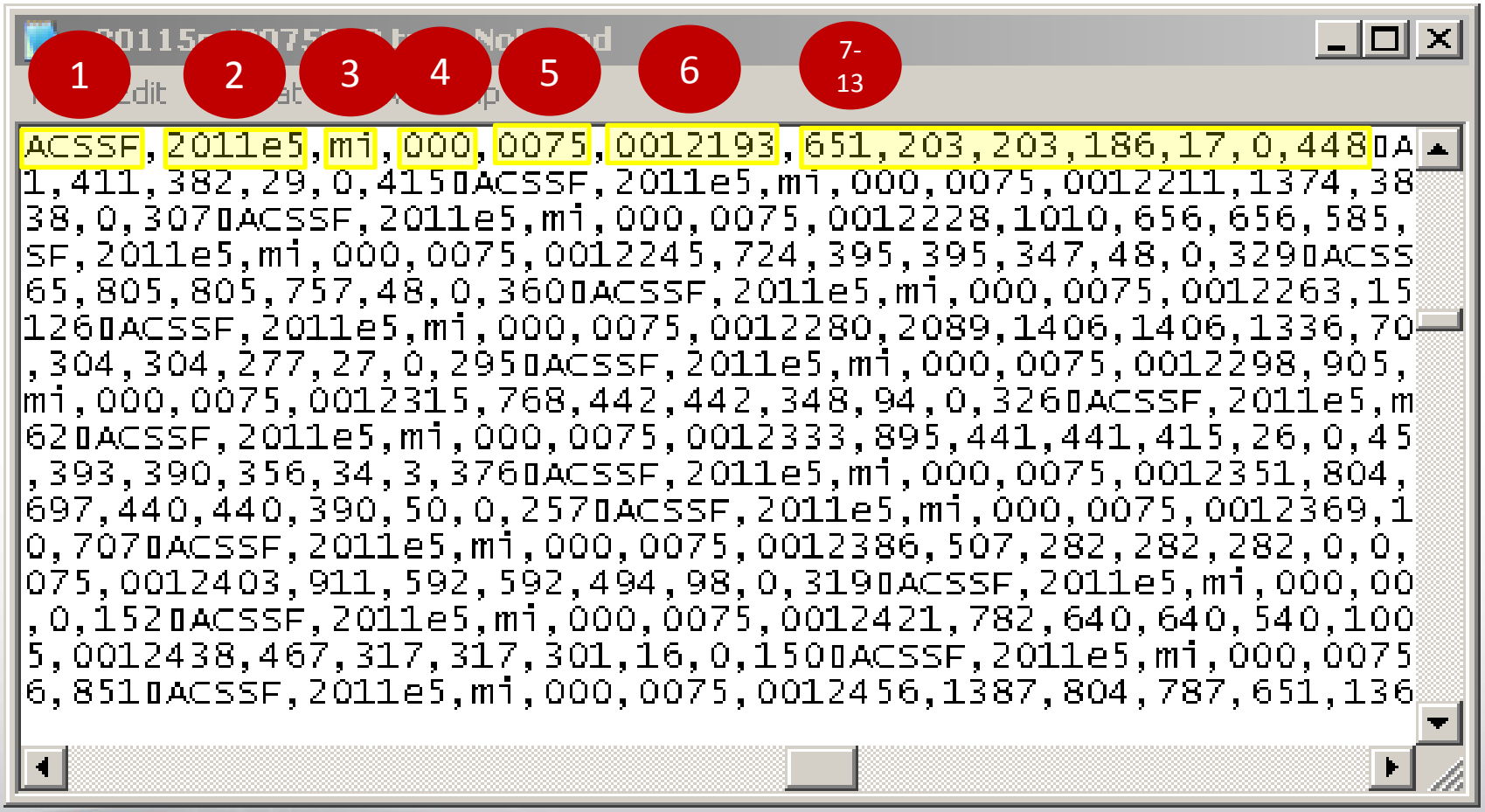


Margin of error file
m20115mi0075000.txt



Geography file
g20115mi.csv or g20115mi.txt

Starting and Ending Position



Templates

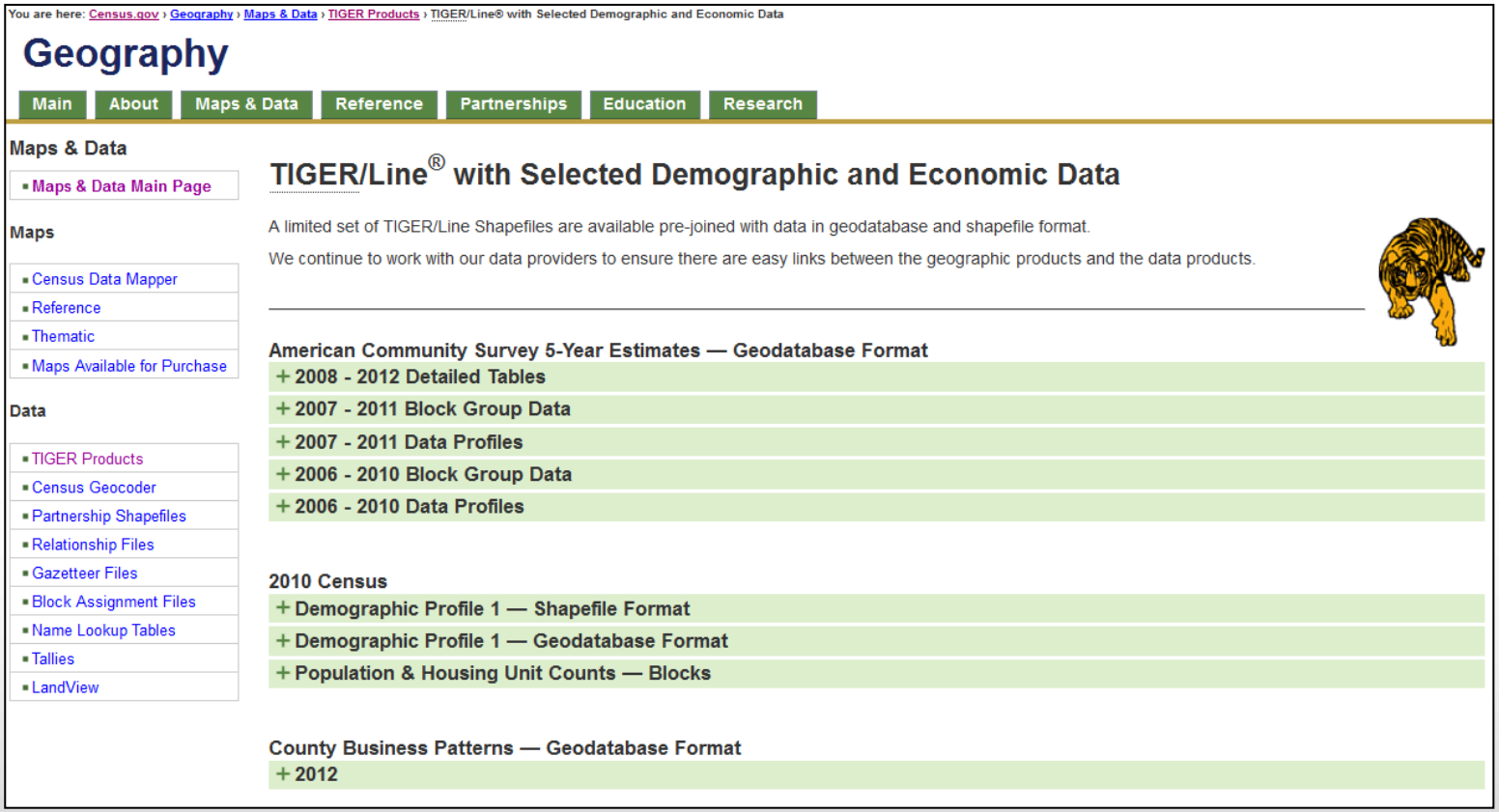
	C	D	E	F	G	H	I	J	K	L	M
1	STUSAB	CHARITER	SEQUENCE	LOGRECNO	B23025_001	B23025_002	B23025_003	B23025_004	B23025_005	B23025_006	B23025_007
2	STUSAB	CHARITER	SEQUENCE	LOGRECNO	Population 16 years and over	Population 16 years and over%In labor force:	Population 16 years and over%In labor force:%Civilian labor force:	Population 16 years and over%In labor force:%Civilian labor force:%Employed	Population 16 years and over%In labor force:%Civilian labor force:%Unemployed	Population 16 years and over%In labor force:%Armed Forces	Population 16 years and over%Not in labor force
2815	mi	0	75	12192	2587	1261	1261	1140	121	0	1326
2816	mi	0	75	12193	651	203	203	186	17	0	448
2817	mi	0	75	12194	1037	402	402	355	47	0	635
2818	mi	0	75	12195	955	415	415	371	44	0	540
2819	mi	0	75	12196	1327	595	595	519	76	0	732
2820	mi	0	75	12197	1136	520	520	459	61	0	616
2821	mi	0	75	12198	1293	703	703	607	96	0	590

www2.census.gov/acs2011_5yr/summaryfile/UserTools/2011_Summary_FileTemplates.zip

Outline

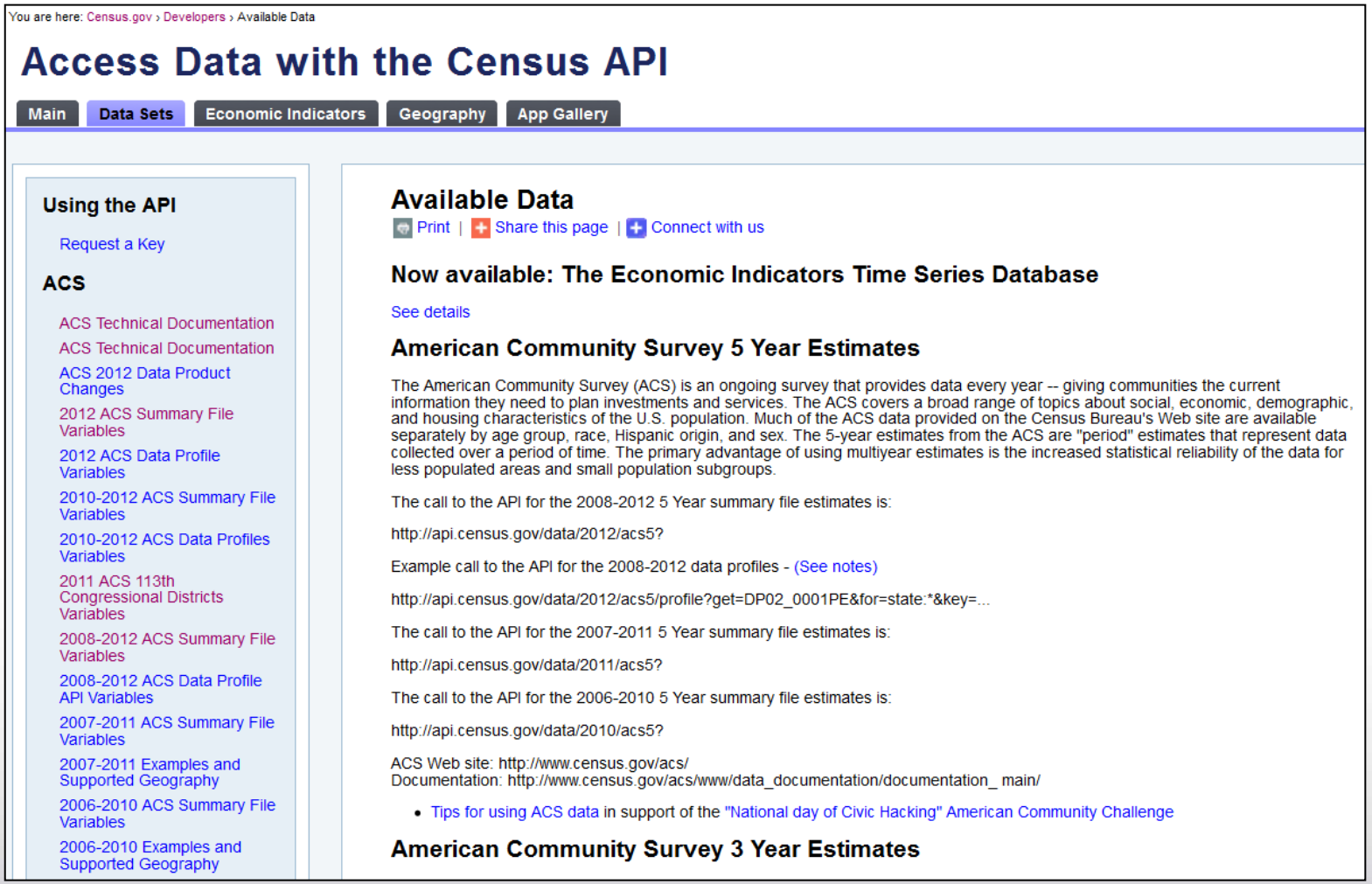
- American Community Survey (ACS) basics
- Tracts and block groups
- Overview of ACS Summary File (ACS SF)
- Ways to access the ACS SF
  - Summary File Retrieval Tool
  - DataFerrett
  - FTP site
  - **Other**
- Wrap up

TIGER/Line Shapefiles Pre-joined with Demographic Data



census.gov/geo/maps-data/data/tiger-data.html

Census API



census.gov/developers

American FactFinder?

- We plan to release block groups in AFF for the 2009-2013 ACS 5-year data release later this year
- December 10th webinar will discuss this in more detail (http://www.census.gov/mso/www/training/)

factfinder2.census.gov

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Recap

- Tracts and block groups are only available as 5-year estimates (not 1-year or 3-year)
- Block group level estimates are not available (yet) in American FactFinder; you must use the ACS Summary File
- You can access the ACS SF using the SF Retrieval Tool, DataFerrett, or FTP site

Block Groups in 3 Steps

1-Verify your table is available at the block group level (check Appendix E in SF Tech Doc)

2-Find your block group using TIGERweb

3-Use your tool of choice to find table(s)

Stay in Touch

- Join the ACS Data Users Group

  acsdatausers.org
- Get ACS email updates

  public.govdelivery.com/accounts/USCENSUS/subscriber/new?category_id=USCENSUS_C12
- Submit questions

  ask.census.gov
- Contact the call center

  1-800-923-8282

Questions?